

Virtual Reality Workstation

Notes to the Teacher

Background

Aboard the Flight Simulator in the Virtual Reality (VR) Station, students will work as a team to follow a flight route over a richly-detailed “Virtual” computer-generated country side. Students have to work cooperatively to navigate, record data, and land the plane safely without “crashing.” Later, wearing a VR headset, students will enjoy an “immersive” flight experience. Both of these responsive environments allow students to interpret flight data on a control panel, navigate, and experience basic principles of flight. Students are challenged to make decisions with rapidly-changing data.

Objectives:

Students will learn about the importance of working as a team to navigate aircraft.

Students will experience some of the effects of navigational decisions on the aircraft performance.

Students will use maps, landmarks, and follow specific directions to successfully fly and land a plane in a limited amount of time.

Workstation Activities:

Navigate a biplane as the pilot, using the flightstick, and throttle of a Flight Simulator.

Assist the pilot in the role of a copilot, by reading maps, using landmarks, and communicating directions clearly and accurately.

Experience navigation and flight, wearing a Virtual Reality head-mounted display headset.

Record data and experiences in flight journal.

Objectives:

Observe
Manipulate Variables
Experiment
Record
Communicate
Interpret
Cooperate

Vocabulary:

Altimeter - An instrument for measuring (usually in feet) the height of the airplane above sea level.

Airspeed Indicator – An instrument for measuring the speed of the aircraft relative to the air through which it is moving.

Compass – An instrument used by pilots to determine the direction in which they are flying.

Flight Simulator – A training vehicle on the ground, which imitates flight in the air.

Virtual Reality – A realistic simulation of an environment, which includes three-dimensional graphics on a computer screen using interactive hardware and software.